

IN THE CLAIMS

1. (Original) An apparatus comprising:
a private branch exchange (PBX) switch;
a residential gateway to receive channel associated signals (CAS) from the PBX switch;
a programmable CAS module to convert the CAS signals into signals of another telephony protocol.
2. (Original) The apparatus of claim 1, wherein the programmable CAS module further comprises a programmable local call agent finite state machine to interpret events and to output user defined responses.
3. (Original) The apparatus of claim 1 further comprising a user interface tool to enable a user to create a CAS program file.
4. (Original) The apparatus of claim 3, wherein the CAS program file includes a system section, an incoming signals section, an outgoing signals section, and a state events action section.
5. (Original) The apparatus of claim 4, further comprising a compiler to generate a binary CAS file from the CAS program file.
6. (Original) The apparatus of claim 5, wherein the binary CAS file is downloaded to the CAS module.

7. (Original) A method comprising:
 - allowing a user to define a state, an event, or an action of a telephony protocol;
 - downloading the user defined state, event, or action to a channel associated signal (CAS) engine; and
 - changing a telephony protocol of the CAS engine corresponding to idle telephone lines associated with the CAS engine based on the user defined state, event, or action.
8. (Original) The method of claim 7, wherein the telephony protocol is a CAS protocol.
9. (Original) The method of claim 7, wherein the state is a transient condition of the CAS engine.
10. (Original) The method of claim 7, wherein the event is an external trigger received by the CAS engine.
11. (Original) The method of claim 7, wherein the action is a response by the CAS engine to a state-event condition.
12. (Original) An apparatus comprising:
 - means for allowing a user to define a state, an event, or an action of a telephony protocol;
 - means for downloading the user defined state, event, or action to a channel associated signal (CAS) engine; and
 - means for charging a telephony protocol of the CAS engine corresponding to idle telephone lines associated with the CAS engine based on the user defined state, event, or action.

13. (Original) The apparatus of claim 12, wherein the telephony protocol is a CAS protocol.
14. (Original) The apparatus of claim 12, wherein the state is a transient condition of the CAS engine.
15. (Original) The apparatus of claim 12, wherein the event is an external trigger received by the CAS engine.
16. (Original) The apparatus of claim 12, wherein the action is a response by the CAS engine to a state-event condition.
17. (Original) A computer readable medium having instructions embodied thereon, which, when executed by a processing system, causes the system to perform a method comprising:
- allowing a user to define a state, an event, or an action of a telephony protocol;
 - downloading the user defined state, event, or action to a channel associated signal (CAS) engine; and
 - changing a telephony protocol of the CAS engine corresponding to idle telephone lines associated with the CAS engine based on the user defined state, event, or action.
18. (Original) The medium of claim 17, wherein the telephony protocol is a CAS protocol.
19. (Original) The medium of claim 17, wherein the state is a transient condition of the CAS engine.

20. (Original) The medium of claim 17, wherein the event is an external trigger received by the CAS engine.

21. (Original) The medium of claim 17, wherein the action is a response by the CAS engine to a state-event condition.